U.S. DEPARTMENT OF ENERGY

Nanoscale Controls on Geologic CO_2

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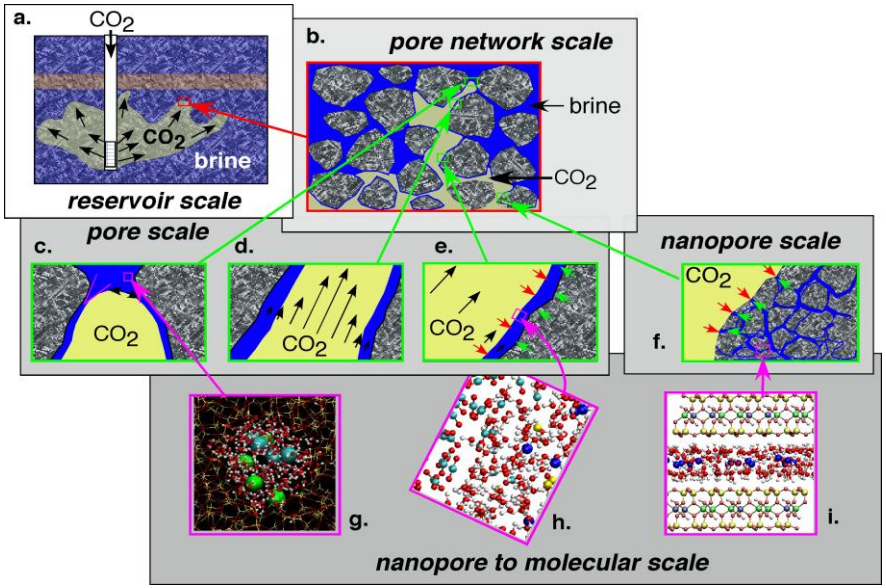
OBJECTIVES are to (1) develop molecular, nano-scale, and pore network scale approaches for controlling flow, dissolution, and precipitation in subsurface rock formations during emplacement of supercritical CO_2; and (2) achieve a new level of prediction of long-term performance



RESEARCH PLAN AND DIRECTIONS: Properties and interactions of complex fluids and minerals must be determined at elevated temperature and pressure, and effects at interfaces and in confined nano-scale pore spaces understood. Novel experimental and computational approaches, and unique DOE experimental facilities (including ALS, SNS, NERSC, Molecular Foundry) will be used.

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